



INFORMATION TECHNOLOGY INDUSTRY COUNCIL

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March 18, 1996  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
Room 222  
1919 M Street, N.W.  
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

Re: In the Matter of Telecommunications Services Inside Wiring,  
Customer Premises Equipment; CS Docket 95-184

Dear Mr. Caton:

I am enclosing an original and ten copies of comments by the Information  
Technology Industry Council (ITI) in response to CS Docket No. 95-184.

Sincerely,

Fiona Branton  
Director, Government Relations and Regulatory Counsel, ITI

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*The association of leading IT companies*

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**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.**

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In the Matter of )

Telecommunications Services )  
Inside Wiring )

Customer Premises Equipment )  
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CS Docket No. 95-184

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

**COMMENTS OF THE  
INFORMATION TECHNOLOGY INDUSTRY COUNCIL**

Fiona Branton  
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1250 Eye Street, NW, Suite 200  
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March 18, 1996

## SUMMARY

The Information Technology Industry Council ("ITI") strongly supports efforts to harmonize the regulatory regimes governing cable and telephony inside wiring and customer premises equipment ("CPE"), while eliminating unnecessary or inconsistent rules. Disparate regulatory structures may have been appropriate when cable and telephone services were distinct services, offered by different monopoly providers, using separate technologies. The continued existence of disparate regulatory regimes, however, is clearly incompatible with the emerging, converging competitive marketplace.

The rules adopted by the Commission in this proceeding should foster the evolution of existing cable systems from one-way distribution conduits to switched, interactive broadband networks. Cable transmission facilities have the potential to be a vital segment of the National Information Infrastructure. Indeed, the fiber optic/coaxial facilities deployed by cable systems are well-suited for the rapid transmission of vast amounts of voice, data, and video content.

In order to allow cable subscribers to make full use of the vast potential of the cable infrastructure, the Commission's rules should make clear that cable subscribers -- like telephone customers -- are permitted to provide and interconnect competitively manufactured cable CPE. Such equipment may include set-top boxes, personal computers equipped with cable modems, televisions equipped with intelligent set-top boxes, or other information appliances.

Consumers also should be permitted to provide, maintain, and configure cable inside wiring, just as they can telephone inside wiring. In the coming years, multiple service providers will vie to deliver broadband content to end-users. The ability of consumers to switch from one distribution system to another -- or to simultaneously employ multiple distribution systems -- plainly will be increased if users are able to connect to these services through a single premises-based wiring system, which consumers are able to configure as they see fit.

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Telecommunications Services	)	CS Docket No. 95-184
Inside Wiring	)	
	)	
Customer Premises Equipment	)	

**COMMENTS OF THE  
INFORMATION TECHNOLOGY INDUSTRY COUNCIL**

The Information Technology Industry Council ("ITI") hereby responds to the Commission's request for comment regarding the desirability of adopting a unified regulatory regime governing inside wiring and customer premises equipment ("CPE") used in connection with both cable systems and telephone networks.<sup>1</sup>

**INTRODUCTION**

ITI, formerly known as the Computer and Business Equipment Manufacturers Association ("CBEMA"), is a leading trade association of manufacturers and vendors of computers, computing devices, office equipment, and information services. As the convergence among video, consumer electronics,

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<sup>1</sup> Telecommunications Services Inside Wiring, Customer Premises Equipment, Notice of Proposed Rulemaking, CS Docket No. 95-184 (rel. Jan. 26, 1996).

computing, and telephony continues, ITI anticipates that its members' products will increasingly make possible new voice, data, image, and video services, which will be transported over both telephone networks and cable systems.

ITI favors minimal regulation, but recognizes that government intervention may be necessary where markets are not yet fully competitive. In the present proceeding, therefore, ITI strongly supports efforts to adopt a unified regulatory regime applicable to inside wiring and CPE. ITI believes that this regime should be guided by three fundamental principles:

- **Maximize Harmonization, While Limiting Regulation.** The Commission should seek the maximum feasible harmonization of cable and telephony rules regarding inside wiring and CPE, while eliminating inconsistent and unnecessary requirements. Reducing and simplifying regulatory requirements will provide the most conducive environment for the private investment that is required to bring "Information Age" services to the public.
- **Promote Deployment of Broadband Capacity.** If businesses and consumers are to have the full benefit of the multitude of new services made possible by digital technology, the Commission's policies must promote widespread deployment of high capacity transmission links. In particular, the Commission's policies must foster the evolution of existing cable systems from one-way distribution conduits to switched, interactive broadband networks.

- **Promote Competition in Premises-Based Equipment.** Equipment located on the customer premises plays a critical role in allowing users to access, manipulate, and send information. Commission policy should ensure that consumers have maximum ability to select and use equipment that best meets their needs, provided they do not harm cable, landline, and wireless network operators' operational or security requirements.

ITI believes that these principles can best be implemented by extending the pro-competitive regime that governs telephone inside wiring and customer premises equipment to comparable equipment used in conjunction with the cable and wireless infrastructure. In so doing, ITI believes that -- beyond specifying standard jacks and minimum requirements to prevent network harm from the interconnection of CPE -- the Commission should leave to consumers decisions on which CPE to deploy.

**I. The Commission's Policies Should Be Governed by Three Pro-Competitive Goals**

**A. Maximize Harmonization While Minimizing Regulation of Inside Wiring and CPE**

As ITI has previously pointed out, "the Commission is at a regulatory cross-road."<sup>2</sup> Historically, it has regulated local exchange carriers ("LECs") and cable system operators pursuant to distinct regulatory regimes. LECs have been viewed as "conduits" that carry information provided by others, subject to the

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<sup>2</sup> Reply Comments of the Information Technology Industry Council, Telephone Company-Cable Television Cross-Ownership Rules, CC Docket No. 87-266, at 2 (filed Apr. 11, 1995).



common carrier requirements of Title II of the Communications Act.<sup>3</sup> Cable system operators, in contrast, have been viewed as "packagers" that select and deliver content to subscribers, subject to the requirements of Title VI.<sup>4</sup> The rules governing customer premises equipment ("CPE") and inside wiring have varied depending on whether the equipment is used in connection with a telephone network or cable system.

The recently adopted Telecommunications Act of 1996 represents a major step in the effort to break down artificial boundaries between local exchange carriers and cable system operators. The legislation makes clear that local exchange carriers are permitted to use their networks to provide multi-channel video programming directly to subscribers within their telephone service area,<sup>5</sup> while cable system operators may use their networks to transport voice and data content generated by others. These developments signal an important step forward in the much-discussed "convergence" of long-disparate services.

The Commission has initiated this proceeding to consider the desirability of harmonizing the regulations applicable to inside wiring and customer premises equipment. ITI strongly supports efforts to harmonize and minimize regulation. Disparate regulatory structures may have been appropriate when cable and telephone services were distinct services, offered by different monopoly

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<sup>3</sup> 47 U.S.C. §§ 201-228.

<sup>4</sup> 47 U.S.C. §§ 521-613.

<sup>5</sup> See Telecommunications Act of 1996, Pub. L. No. 104-104, § 302 (1996).

providers, using separate technologies. The continued existence of disparate regulatory regimes, however, is clearly inconsistent with this emerging, converging competitive marketplace. The disparate regulatory structure, and the business uncertainty it generates, will deter introduction of innovative new equipment and services made possible by advances in technology. The Balkanized regulatory structure will thereby delay realization of the social and economic benefits that these new technologies can provide. A few examples demonstrate the potential problems.

**Cable Telephony.** Some manufacturers are including telephone functionality as part of their personal computers and other information appliances. Under existing regulations, subscribers may use this functionality to make voice telephone calls over the telephone network. Now that Congress has preempted state-imposed barriers to entry into the local exchange market,<sup>6</sup> cable companies are likely to provide a competitive alternative to existing telephone providers. Current regulations, however, do not require cable system operators to allow subscribers to interconnect their CPE to cable networks. As a result, customers may not be able to connect their PC-telephones or other devices to cable networks. Regulatory disparities can only create customer confusion, reduce efficiency, and deter manufacturers from providing functionality that meets consumers' needs.

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<sup>6</sup> See Telecommunications Act § 303.

**Video-on-Demand.** Many analysts believe that -- at least initially -- consumers will access video-on-demand services by placing an order that is carried "upstream" over the telephone network, while receiving the requested programming carried "downstream" over cable-company broadband facilities. Personal computer manufacturers can readily accommodate this structure by designing equipment that is able to interconnect with both the cable and telephone infrastructures. Under current rules, however, consumers have the right to interconnect their PC to the telephone network to place the order, but would not necessarily be allowed to use the same equipment to receive the video programming. Such uncertainty creates a strong disincentive for PC manufacturers to provide this functionality.

These are only a few examples. Harmonization will help to ensure that service and equipment deployment is driven by market demand and technological innovation, rather than increasingly out-dated regulatory disparities. Of course, harmonization does not mean automatic extension of existing rules. As Congress has made clear, the Commission needs to give careful consideration to whether unnecessary rules can be eliminated.<sup>7</sup> Where feasible, the Commission should allow the voluntary industry standards process to play the leading role in any necessary standards-setting activity.

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<sup>7</sup> See Telecommunications Act § 402.

## **B. Promote Deployment of Broadband Transmission Links**

Digital technology has made it possible to offer a wide range of voice, data, and video services to government, non-profit, business, and residential users. These new applications have the potential to bring almost incalculable benefits to users. For example, full motion video conferencing services can greatly improve the speed and efficiency of business, while high speed/high resolution image transfer can provide health care providers and educators with access to otherwise unavailable information. At the same time, residential users can enjoy increased choice in entertainment programming through video-on-demand services. And all users can benefit from access to the wealth of information available over the Internet and other services.

Because of the large volume of time-sensitive information that is required, some of these applications can only be effectively provided over broadband facilities. Moreover, the features and quality of these new information services can be enhanced by additional bandwidth.<sup>8</sup> Therefore, if users are to take full advantage of these new services, adequate, affordable transmission capacity must be available. For this reason, ITI has consistently advocated policies that

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<sup>8</sup> Videoconferencing provides a good example. Most existing systems use two switched 56 kilobit per second (Kbps) channels. These systems allow for the transmission of stationary images, such as a speaker at a lectern. In order to improve quality to a level at which group editing of a document is possible, it is necessary to deploy at least 348 Kbps of bandwidth. Life-like, full-motion videoconferencing can require a 1.5 megabit per second channel -- 12 times more bandwidth than today's standard service.

would promote the increased availability of bandwidth -- both wireline and wireless.

Consistent with this view, ITI strongly supported adoption of the Telecommunications Act of 1996, which will promote the deployment of additional local exchange facilities. ITI also has sought to promote the deployment, by incumbent telephone companies, of Integrated Switched Digital Network ("ISDN") service. This technology, ITI has noted, "promises to provide the affordable, ubiquitous higher bandwidth needed for PC-based communications, now and for the near term."<sup>9</sup> Much to our dismay, however, ISDN service is not widely available at reasonable prices. In addition, ITI has advocated allocation of a substantial block of radio spectrum in the 5 GHz range in order to "make it possible to send more data-intensive communications over unlicensed wireless networks."<sup>10</sup> And, most recently, ITI stressed that the broadcast standard for Advanced Television ("ATV") "must be fully interoperable with the computer and information technology industries" in order to provide an additional, much needed "means of delivering . . . new applications to consumers."<sup>11</sup>

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<sup>9</sup> Comments of the Information Technology Industry Council, End User Common Line Charges, CC Docket No. 95-72, at 1 (filed June 29, 1995).

<sup>10</sup> Comments of the Information Technology Industry Council, Allocation of Spectrum in the 5 GHz Band to Establish a Wireless Component of the National Information Infrastructure, RM-8653, at 5 (filed July 10, 1995).

<sup>11</sup> Comments of the Information Technology Industry Council, Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, MM Docket No. 87-268, at 2 (filed Nov. 21, 1995).

Like the radio spectrum and the public switched telephone network, cable transmission facilities have the potential to be a vital segment of the National Information Infrastructure. Indeed, the fiber optic/coaxial facilities deployed by cable systems are well-suited for the rapid transmission of vast amounts of voice, data, and video content. According to one estimate, a PC user with a cable modem could download as much information in 20 seconds as current PC/telephone modem users can obtain in 46 minutes.<sup>12</sup>

Cable system operators are beginning the process of upgrading their systems to allow for the provision of two-way interactive services. The Commission must ensure that its regulatory regime fosters this trend. At the same time, the Commission also must ensure that cable operators do not become the broadband "gatekeeper" into homes or offices by leveraging their control over cable inside wiring to deter service provision by other transport and content providers.

### **C. Promote Competition in Premises-Based Equipment**

The vast potential of the cable infrastructure can only be realized if consumers are able to use a wide range of premises-based equipment, to receive, view, manipulate, and send content over these facilities. Such equipment may

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<sup>12</sup> See Peter Coy, "The Big Daddy of Data Hauler," Business Week, Jan. 29, 1996, at 74. This estimate is based on the use of a state-of-the-art 28.8 kilobit telephone modem to download a 10 megabyte video clip. Consumers using the older, widely deployed 14.4 kilobit modem would have to wait a full 93 minutes; see also Mike Mills, "Making Copper a Bit Faster," Washington Post, Feb. 22, 1996, at D9.

include set-top boxes, personal computers equipped with cable modems, televisions equipped with intelligent set-top boxes, or other information appliances. Current regulations, however, do not provide consumers with the right to attach equipment of their choice to the cable infrastructure. Rather, cable operators are free to require consumers to use only cable-provided equipment. As a result, today's cable customers are required to use the set-top boxes selected by the cable system operator, even if a competitively provided substitute could better meet their needs.

Experience in the telephone market has conclusively demonstrated that the user benefits as a result of a competitive CPE market. As the Commission itself has observed, "competition among manufacturers has driven improvements in equipment quality, lowered CPE prices, and improved the performance of users' . . . communications networks."<sup>13</sup> In enacting the Telecommunications Act of 1996, Congress recognized the benefits to subscribers of "multichannel video programming and other services offered over multichannel video programming systems" -- including cable subscribers -- of having the ability to provide their own premises-based equipment.<sup>14</sup> Congress therefore required the Commission to adopt regulations to promote the competitive availability of cable CPE.<sup>15</sup> Any

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<sup>13</sup> NYNEX Tel. Co. Tariff F.C.C. No. 1, Transmittal No. 127, Memorandum Opinion and Order, 9 FCC Rcd 1608, 1608 (1994).

<sup>14</sup> Telecommunications Act § 304.

<sup>15</sup> Id.

action taken by the Commission in this proceeding should serve to advance that Congressional goal.

**II. Extension of the Commission's Pro-Competitive Rules Governing Telephone CPE and Inside Wiring to Cable Will Reduce Regulatory Uncertainty and Promote Deployment of Broadband Transmission Links**

ITI believes that the Commission can meet all three goals outlined above -- regulatory harmonization, broadband deployment, and equipment competition -- by uniting existing telephone and cables rules to make clear that:

- Consumers may provide, maintain, and configure cable inside wiring, just as they can telephone inside wiring.
- Consumers may provide and interconnect competitively manufactured cable CPE, just as they can telephone CPE, subject to a no-harm-to-the-network standard.

**A. Competitive Provision of Cable Inside Wiring**

The Commission's policies have long allowed telephone ratepayers to provide, install, and maintain their own inside wiring. End-users also have the right to access, reconfigure, and use any carrier-owned wiring.<sup>16</sup> In contrast, cable customers are required to accept the cable inside wiring that is provided by their service providers as part of the regulated service offering. Under current rules,

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<sup>16</sup> Detariffing the Installation and Maintenance of Inside Wiring, Memorandum Opinion and Order, 1 FCC Rcd 1190, 1195 (1986), further recon., 3 FCC Rcd 1719 (1988).



cable customers may obtain ownership and control of existing cable inside wiring only after terminating service.<sup>17</sup>

The Commission's pro-competitive regulatory regime for telephone inside wiring has had numerous beneficial effects. It has ensured that the cost of inside wiring is borne by the end-user that employs it, thereby eliminating efficiency-distorting subsidies that existed when telephone inside wiring was provided as part of the regulated transmission service. Users also have benefitted from the ability to choose among competing providers, and to rearrange existing wiring in the manner that most efficiently meets their needs.

Cable customers can be expected to enjoy the same benefits if the market for cable inside wiring is competitive. This approach also offers an additional benefit. In the coming years, multiple service providers will vie to deliver broadband content to end-users. Such competition is clearly in the public interest. The ability of consumers to switch from one distribution system to another -- or to simultaneously employ multiple distribution systems -- plainly will be increased if users are able to connect to these services through a single premises-based wiring system, which consumers are able to configure as they see fit.

In light of the above, ITI urges the Commission to extend the pro-competitive regulatory regime for inside wiring to the cable environment. In particular, customers should be free to attach customer-owned, competitively

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<sup>17</sup> See 47 C.F.R. § 76.802.

provided inside wiring to the cable system. Cable customers also should be able to configure and employ system-owned wiring for any purpose. These rights, of course, should be subject to a no-harm-to-the-network standard.

## **B. Competitive Provision of Cable CPE**

Acting pursuant to its Title II authority, the Commission has long allowed telephone ratepayers to obtain customer premises equipment on a competitive basis.<sup>18</sup> Users also have the right to connect competitively provided equipment to the telephone network, subject to a no-harm-to-the network standard. The Commission's Part 68 registration program ensures that CPE meets this standard. The Commission's competitive CPE policies have been an unqualified success.<sup>19</sup> ITI believes that the same results will occur through the application of this pro-competitive regulatory regime to cable CPE.<sup>20</sup>

The Commission has taken an important "first-step" towards the promotion of a competitive market for premises-based equipment used in connection with cable systems. In the Cable Compatibility Order, the Commission

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<sup>18</sup> The Commission's CPE unbundling rule, 47 C.F.R. § 64.702(e), states that "[e]xcept as otherwise ordered by the Commission . . . the carrier provision of customer-premises equipment used in conjunction with the interstate telecommunications network shall be separate and distinct from provision of common carrier communications services and not offered on a tariffed basis."

<sup>19</sup> Verilink Corporation's Petition for Rulemaking to Amend the Commission's Part 68 Rules to Authorize Regulated Carriers to Provide Certain Line Build Out Functionality as a Part of Regulated Network Equipment on Customer Premises, Memorandum Opinion and Order, 10 FCC Rcd 8914, 8921 (1995).

<sup>20</sup> Cable CPE would include, for example, set-top boxes and cable modems.

established regulations designed to allow cable subscribers "to utilize equipment offered by a variety of suppliers . . . in a competitive market."<sup>21</sup> Under the Commission's plan, functions necessary to protect the security of the cable system's programming (such as signal descrambling) are to be performed by a cable-system-provided Decoder Module. At the same time, non-security functions -- such as the provision of on-screen directories -- are to be made available "through new products offered by retail vendors."<sup>22</sup> By unbundling the provision of non-security equipment from the provision of cable transmission and program packaging services, the Commission seeks to "promot[e] competition in the market for equipment used to receive cable service."<sup>23</sup>

At the present time, the equipment that is the primary focus of concern is the set-top or set-back box that will be used to receive one-way video programming. Creating a competitive market for such equipment is, in itself, an important goal. If a cable system operator is allowed to control the cable set-top box used in connection with service provided over its facilities, it will be able to prevent consumers from having access to competitively provided equipment and services. The importance of establishing pro-competitive unbundling rules, however, goes well beyond the promotion of competition in the set-top box

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<sup>21</sup> Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992, 9 FCC Rcd at 1981, 1982 (1994).

<sup>22</sup> Id. at 1988-89.

<sup>23</sup> Id.

market. As telephone and cable networks become conduits for highly inter-active, two-way information services, technological and market forces will push more and more functionality out of the networks and into sophisticated "information appliances" located on customers' premises.

Cable system operators plainly ought to be allowed to participate in this market. However, they must not be allowed to use their remaining market power to preclude full and fair competition. As in the telephony environment, the best way to allow full competition is to separate the provision of cable CPE -- which should be a competitive, non-regulated undertaking -- from the provision of regulated cable service,<sup>24</sup> and to adopt rules necessary to prevent network operators from engaging in cross-subsidization and discrimination. In addition, as in the telephony market, the Commission's rules should make clear that users have the right to interconnect such equipment to the cable network, subject to a no-harm-to-the-network standard.

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<sup>24</sup> ITI previously has recognized that a narrow exception may be appropriate for "security-only" cable CPE.

## CONCLUSION

The Telecommunications Act of 1996 seeks to promote competition in cable equipment, including set-top boxes. ITI believes that, to fully implement the congressional mandate, the Commission must minimize unnecessary regulations while adopting pro-competitive rules that allow for the independent manufacture and sale of cable CPE. The Act also seeks to promote competition in multichannel video and advanced telecommunications services. This, ITI believes, can best be achieved by minimal rules that facilitate consumer ownership and control of cable inside wiring. ITI urges the Commission to adopt such rules in the present proceeding.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Fiona Branton", is written over a horizontal line.

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March 18, 1996